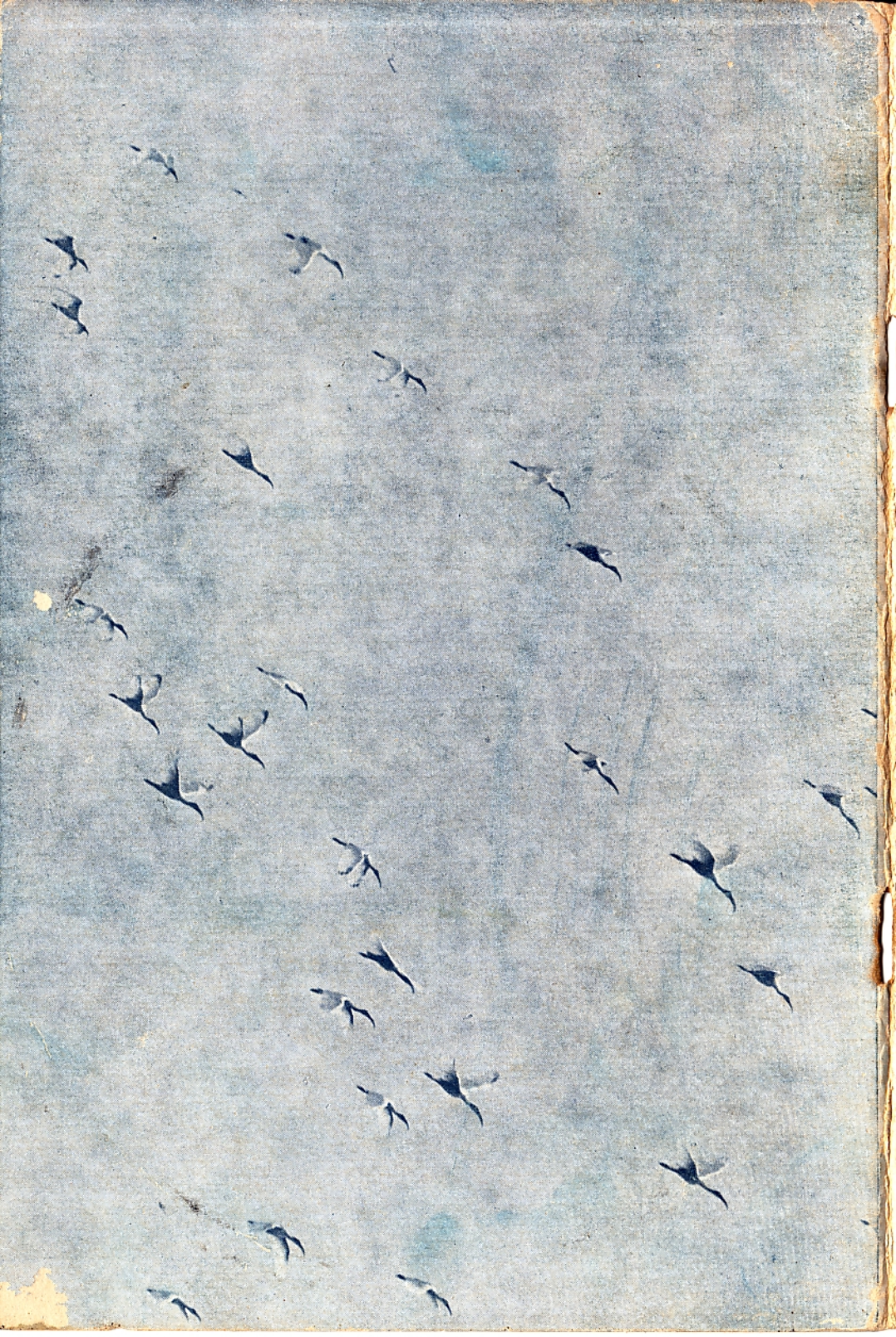

Large Egret in Flight

THE VEDANTHANGAL SANCTUARY FOR WATER-BIRDS

WRITTEN AND ILLUSTRATED BY
M. KRISHNAN

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ISSUED BY
THE MADRAS STATE FOREST DEPARTMENT
1960

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FOREWORD

In October 1959, the Madras Forest Department published an Introduction to the Mudumalai Wild Life Sanctuary, written and illustrated by the well-known Naturalist, Sri M. Krishnan. In connection with Wild Life Week in October 1960, the Department is fortunately in a position to place before the public this illustrated booklet on "The Vedanthangal Sanctuary for Water-Birds". The Department is again grateful to Sri M. Krishnan for this new addition to the very meagre literature available on Wild Life in the State.

The birds that visit Vedanthangal and breed in the locality are known to have been in the habit of doing so, season after season, for many decades if not centuries. The manurial value to their cultivation of the birds' droppings in the tank has been so well recognized and appreciated by the local people, that they zealously guard the birds and their nestling from predators and intruders of all kinds. The place bustles with activity from November to March and it is indeed a pleasure to watch the variety of birds living on the tree tops in such perfect amity.

The Vedanthangal Bird Sanctuary is located within easy reach—52 miles south of Madras City. It consists of a large irrigation tank, part of which is covered over by a mass of low branching Barringtonia trees;

and the birds have their nests huddled together all over the crowns of these trees. The place hums with activity in the early hours of the morning or the late hours of the afternoon and evening; and at these hours it is a rewarding sight for anyone, not merely a bird-lover or a bird-watcher, who may saunter along the high bund of the tank.

The Madras Forest Department hopes that this booklet will serve to rouse the peoples' interest in our avian fauna and particularly to foster a desire in our younger folk to know more about our birds and to like them better.

MADRAS,
4th August 1960.

C. A. R. BHADRAN, I.F.S.,
Chief Conservator of Forests.

CONTENTS.

In the following pages is presented a brief account of the Vedanthangal Bird Sanctuary under the headings—

The photographs for the illustrations in this publication were all taken by daylight in the Sanctuary. Of the many exciting scenes presented in their natural setting, those captured with the camera and included in this narrative show—

1 Front cover—Large Egret in flight.

2 A nesting tree in the mixed heronry.

3 Grown young of Openbill, White Ibis and Shag on the tree-tops : End of the season.

4 Grey Heron bringing in nesting material.

5 A view from the bund—Openbills on top herons and egrets below.

6 Flight of openbills arriving to nest at Vedanthangal.

7 Shag bringing a twig home for nest-building.

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13 Adult Night Herons.

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17 Spoonbill uttering its hicupping call on the wing.

18 Spoonbills feeding.

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(Back cover)

A nesting tree in the mixed heronry.

INTRODUCTION.

During the rainy season water-birds nest and breed, usually in colonies, sometimes in large mixed colonies. Year after year the same nesting site is utilised, if the birds are not disturbed. At Vedanthangal in the Chingleput district, 53 miles from Madras by road, many different kinds of water-birds have been breeding every year in large numbers in a grove of Barringtonia trees in the heart of the villageside tank, from time immemorial.

This mixed heronry at Vedanthangal is one of the most spectacular in India, and perhaps the closes packed—in fact, it is its very compactness and congestion that make it so very remarkable. Elsewhere in South India there are other mixed

heronries, one or two of them (the one at Seringapatam in Mysore State, for instance) of larger size. Further, even within Madras State, some of the species nesting at Vedanthangal do breed in other parts of the countryside, in small, isolated colonies. But nowhere else do so many thousand birds of so many different kinds (in years when rainfall is normal, no less than 14 species may be found breeding at the Vedanthangal nesting colony) breed in such close-packed promiscuity, in a tight colony visible almost in its entirely from the tank-bund. During the height of the breeding season, in November, December and January, Vedanthangal provides a wonderful panoramic view of a large mixed heronry, and the sustained clamour and bustle of nesting and feeding activities, and the frequent overhead flights of birds setting out from the colony or returning home from their feeding grounds, cannot fail to fascinate and intrigue the watcher on the bund.

Adequate factual details about the nesting colony are furnished in this pamphlet, but first some general observations on water-birds in South India may be made, as much popular confusion seems to prevail about the Vedanthangal Sanctuary, particularly about migratory birds being found here.

When it is the rainy season here and inhospitable winter in the cold countries of Northern Asia and Europe, many birds migrate to warmer southern countries for the duration of winter, soon after breeding—when summer comes around, they return to their northern homes. Not all of these are water-birds, nor do they all come to India. However, it is true that the majority of these long-distance migrants are water-birds or waterside-birds, and that a good few of them do come to India, even to South India. Many kinds of duck, some wagtails, sandpipers and plovers are examples of such true migrants. During the last few months of the year, and till February or March, these birds may be found at lakes and tanks in South India and are by no means uncommon in the Madras area. No wonder then that some of these migrants, such as the Common Sandpiper, the Grey Wagtail and the Bluewinged Teal, also find their way to the Vedanthangal tank and neighbouring sheets of water.

Many years ago a teal was shot at the Vedanthangal tank, and on its leg was a ring (the kind of metal ring used by ornithologists for studying bird movements) with the legend 'Moscow' inscribed on it. This incident has given rise to the wide belief that rare waterfowl from Russia arrive at Vedanthangal to breed, a belief that gained strength by the propaganda of well-meaning people who found the romantic appeal of something exotic irresistible. Nothing could be farther from the truth. No

exotic waterfowl breeds at Vedanthangal tank, no bird from Alabama pines for its lost mate on its shores. In fact, if a bird is found breeding anywhere in South India, one may be quite sure that it is *not* a migrant from the far North (or even the near North), because such migratory birds come here after they have done with breeding in their own homes. The mystery about that teal, if there is any mystery, is not that it was ringed or that it came to Vedanthangal from Moscow, but that it was shot down at what, even then, was an alleged sanctuary!

This, the fact that no true migrants breed at Vedanthangal, though a few may occasionally be found here, as at other pieces of water near-by, raises this question: What happens to the birds breeding at Vedanthangal when it is summer, where do they go till the next breeding season, and which is their home? A two-part question, when one analyses it, for the 'what happens' and the 'where do they go' together make only one part, the second part being the query about the home of these

End of the season: grown young on the tree-tops (Openbill, White Ibis and Shag).

birds. Well, there is no doubt about the place to which they belong—it is Vedanthangal. It is universally recognised that the home of a bird is where it breeds, and since these birds breed and are breed here, Vedanthangal is their home.

The first part of the question is less easily answered. On the evidence available (precious little!) it is not possible to say that each species breeding here goes to some definite feeding ground during summer, nor can it be asserted that it just scatters at random to feeding grounds in the vicinity or even far away. Unless it can be shown that any of these birds goes regularly each summer to specific feeding grounds, no local migration can be established, for every kind of migration is a to-and-fro movement between particular places, a commutation between breeding and feeding grounds with a definite direction to it. It may well be that some of the species breeding at Vedanthangal are given to such migration, while there is no direction to the summer dispersal of the others, which just fly off to such feeding grounds as they may find. When it is realized that a hundred miles or two is no distance to a bird, and that there is little evidence at present regarding the "off" season movements of the Vedanthangal birds, and not much likelihood of such evidence forthcoming in the near future, the impossibility of answering this question will be apparent.

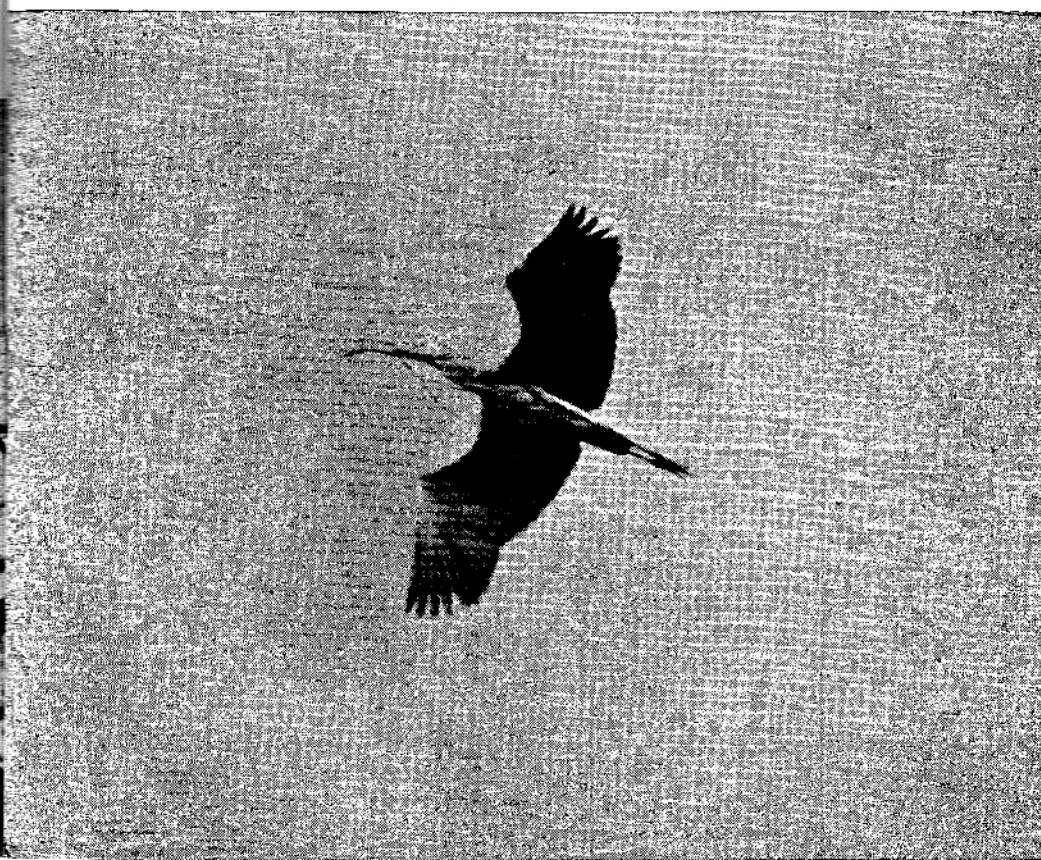
Another feature of the Vedanthangal colony may be mentioned here. Not all the birds to be found at the tank are breeding birds Just as a few true migrants visit this tank some indigenous birds also visit it, and even sojourn here for some time—among such birds the Blackwinged Stilt (common in parties at the water's edge), and occasional pelicans and coots may be mentioned. Other non-breeding birds to be found here in comparatively large numbers are of the same species as the breeding birds—this rather confusing statement may be clarified and explained.

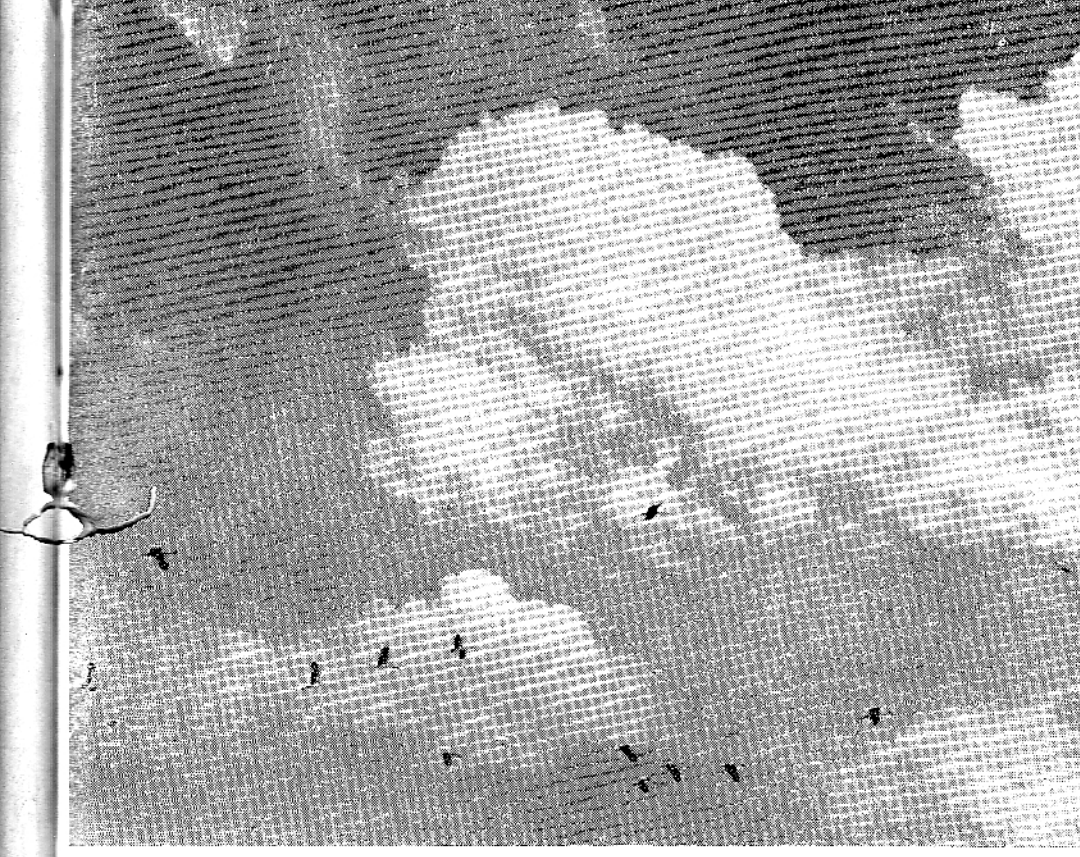
The things needed for the establishment of a mixed breeding colony of water-birds anywhere, such as safe nesting-trees and unstinted food supply, are also things that draw these same birds when they are not breeding. Further, plenty of food seems to be required for these birds to get into breeding condition—at times, especially during years when the rainfall has not been adequate, many of these water-birds may congregate at a breeding centre, where there is the best food supply available, but they may not get into breeding condition. Furthermore, not all of them get into breeding condition at once; some do so later in the season, some earlier. For these reasons, many birds of

the species breeding at Vedanthangal may be found here in non-breeding plumage, especially early in the season—this is especially true of the egrets, and Cattle Egrets, at the tank.

The location and history of this ancient sanctuary, and an account of the nesting enterprise and of the water-birds to be found here may now be provided.

Grey Heron bringing in nesting material.





Flight of Openbills arrving to nest at Vedanthangal.

LOCATION AND HISTORY.

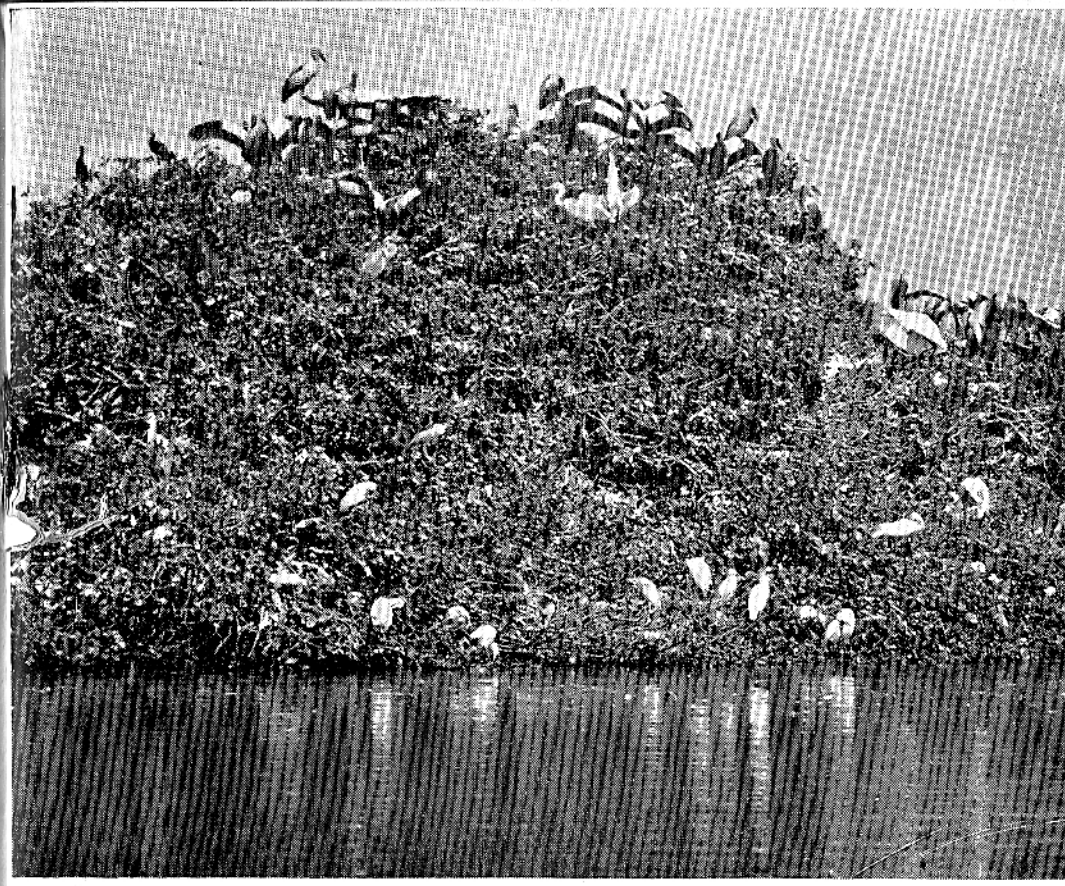
The village of Vedanthangal lies in the north-western part of the Madurantakam taluk of Chingleput district. The countryside here, and hereabouts, is flat and open, with few trees or heavy bush cover, low-lying and subject to extensive inundation during the rains; it is marked by a number of tanks and temporary sheets of water, and is mainly agricultural. The most noteworthy natural feature of this area is the nesting colony at Vedanthangal.

From ancient times, colonies of water-birds nesting at or near villages in South India, have been protected by the resident humanity of these places, the traditional culture of the country imposing this protective duty upon the people. At Vedanthan-

gal there has always been an added incentive to such zeal—the birds nest in the middle of the tank which supplies local agriculture, and their droppings fall into the water, endowing it with a rich manurial potency—even the silt scraped from the dried-up tank bed is highly valued as manure for the crops. For generations local agriculture has benefited by its proximity to the nesting colony, and for an equally long period the birds have also benefited by the nearness of the village.

Vedanthangal represents one of the oldest bird sanctuaries in South India. The history of the sanctuary prior to 1790 is not clear—the area was disputed territory in those days, and there does not seem to have been any stable government to which the villagers could turn. But there is documentary evidence to show that in the closing years of the 18th century the villagers of Vedanthangal obtained a 'cowle' from the first Collector of Chingleput appointed by the East India Company, recognizing their right to safeguard the nesting colony in their tank from those seeking to snare or shoot the birds. This 'cowle' was lost by the villagers, but in 1858 it was renewed—this document of 1858 refers to the first 'cowle', and also to the Barringtonia trees in the middle of the tank, where the birds nest.

Since these early documents recognising the villagers' right to protect the nesting birds were based on a claim of immemorial custom, it is safe to presume that Vedanthangal has been, in effect, a sanctuary for water-birds for at least 200 years. In 1936 the Collector of Chingleput officially recognised the place as a sanctuary, and sanctioned the first governmental expense towards its maintenance. In recent years the Government have taken over the entire responsibility for the sanctuary. The shooting of water-birds in and around Vedanthangal, within a radius of 20 miles has been prohibited, for the breeding birds wander far at times in their search for nesting material and food, and used to be shot down in large numbers till this prohibitory order. An excellent road has now been built right up to the bund of the sanctuary, to enable visitors to reach it in comfort, and other amenities are being provided, or will shortly be provided. However, we should not forget, in spite of all these transforming changes, that it was the initiative of the villagers and their sustained vigilance, over centuries, that was responsible for the stable location of the nesting colony here.



A view from the bund . . . openbills on top herons and egrets below.

THE NESTING CENTRE AND THE BUND.

There are any number of rain-fed tanks around Vedanthangal, and the great Madurantakam tank, visible from the bund at Vedanthangal, is barely half a mile away as the egret flies. The question may be asked why these water-birds should nest only here, and not at the other tanks in the neighbourhood.

The answer to that is that in none of these other tanks and sheets of water is there a central, compact grove of trees, admirably suited for nesting in. However, that is not a full answer to the question, and to appreciate the natural advantages of Vedanthangal a more detailed and tedious statement of the position is necessary.

Birds, particularly water-birds which are highly adapted to a specialized mode of life, do not go by reason or intelligence but by powerful instincts—by a *set* of inborn impulses that are unreasoned, compulsive and fully developed in their skills, being incapable of improvement by practice or through experience. Many water-birds prefer nesting trees which are insulated by surrounding water. At Vedanthangal, the grove of Barringtonia trees in the middle of the tank is so insulated when the tank fills up, and nesting is invarialy commenced in the trees facing the bund which are the first to have their trunks partially submerged when the water comes in with the rains.

Further, the food requirements of a colony of nesting water-birds are staggering. The insatiable fledgelings can consume more than their own weight of food (regurgiated by their parents) in a day, and grow at a great pace. Water-birds as a class are silent, many even voiceless, but the almost continuous yickering and yapping of the fledgelings, the hunger cry of the young, can be heard a considerable distance away at any mixed heronry. These birds feed on fishes, frogs and tadpoles, molluscs, and other aquatic fry, though a few species also take in some aquatic vegetation. Vedanthangal is situated in the midst of varied feeding grounds, the tanks and inundated wastelands around teeming with just the kind of prey that the breeding birds require. Later, when the water dries up, the home tank itself serves to feed the fledged and fast-growing young birds, and other sheets of water (such as the Madurantakam tank) are not far away. The partly submerged scrub around provides adequate reserves of thorny twigs for nest building, and the Barringtonia trees at the home tank offer not only nesting sites for the breeding birds, but also roosts for the non-breeding birds early in the season, and, at the end of the breeding enterprise, safe perches for the growing young.

Since the Barringtonia grove is of such importance to the nesting colony, an account of it would not be out of place. The Vedanthangal tank is 70 odd acres in extent, and the grove occupies only about a half of this area, being placed somewhat off centre. There are over 500 trees in this compact grove, though from the bund they seem no more than a hundred, or two at best—so closely contiguous are they in their growth. The trees are only some 20 feet high (many are only 15 feet high), with flattish crowns and a much gnarled and twisted lateral spread of their boughs and many tough twigs—ideal nesting trees for water-birds. The 'cowle' of 1858, already mentioned, refers to this grove, and there are good reasons for thinking that the grown-up trees to be found here today are the same trees then specified, and that they are well over a hundred years old.

These are trees of the species *Barringtonia acutangula,* a tree that is *not* a mangrove, though it stands seasonal waterlogging fairly well, as some other trees (acacias, for example) also do. It could well be that this yearly waterlogging of the trees at the tank for months on end is what has prevented natural regeneration here. Some Barringtonia trees are also to be found near the bund, and at the periphery of the tank—the birds do not nest in these trees.

The bund, which limits the western side of the tank almost from its northernmost point to its southernmost, is of greater interest to the human than to the avian visitor to Vedanthangal, for it is from here that one observes the nesting and flighting birds.

Palmyras and other trees grow along its course, and there is ample vegetation and shade. The flora of the bund is interesting, but there is no place in this pamphlet for a quick botanical survey of it—however, it may be pointed out that the introduced cane brakes on the south-western slopes of the bund, and the richness of the vegetation and agricultural fields beyond, bear convincing testimony to the manurial potency of the water of the tank. Incidentally, the green scum on the water's edge near the bund is not the floating excreta of the birds, but aquatic vegetation.

Shag bringing a twig home for nest-building

THE BREEDING COLONY.

The birds arrive at the tank soon after it begins to fill up, about August-September when the North-East Monsoon is neither belated nor meagre. Some of them arrive in breeding livery, some in non-breeding condition. All the birds of a species do not arrive together; each species comes in inflights which may be quite large or consist only of half-a-dozen birds, and immediately proceeds to colonise the available trees. This colonisation is progressive and promiscuous, and seems to be continued right up to November; birds of different species settle on the same tree as they arrive, and promptly proceed to build nests if they are already in breeding condition; more

and more trees are made available for nesting as the water fills up the tank, and as the birds keep coming in these trees are utilised; the trees facing the bund are the first to be submerged (the tank bed having a slope towards the bund) and these are the first to be colonised, the trees behind them being occupied later. The peripheral trees on the eastern and northern sides of the grove are not so much used for nesting, but they serve as roosting trees for the non-breeding birds. Usually, by April the season is over and the birds have departed, but this naturally varies from year to year, depending on how soon the tank dries up.

Although each occupied tree is crowded with nests and presents a motely appearance, due to the intermingling of the blacks of the cormorants, the whites of the egrets and spoonbills and ibises, and the greys of the openbills and herons, it is nevertheless true that some species do dominate certain nesting trees—there are, of course, no trees that are colonised entirely by any one species. Openbills and herons are a feature of the outlying trees at the north-western corner of the grove (facing the bund), spoonbills, egrets and cormorants dominate the scene opposite the centre of the bund, and the trees on the rocky southern corner of the colony are the stronghold of the night herons.

These are the species nesting regularly at the colony—a fuller account of each species is provided later:—

Three species of egrets (the Little Egret, the Median Egret and the Largs Egret); the Cattle Egret; the Night Heron, the Pond Heron and the Grey Heron; the Openbilled Stork; the Spoonbill and the white Ibis; three species of cormorants (the Little Cormorant, the Shag, and the Large Cormorant), and the Darter.

Naturally, the numbers of these birds vary from year to year depending on rainfall—no reliable count is available, nor is it possible in the circumstances. However, on the basis of such sample surveys as I was able to make over several consecutive seasons, I estimate that at the height of the breeding season the tank may hold from five to six thousand birds, including the non-breeding birds roosting here and the young.

The proportionate numbers of the species breeding here also seem to vary from year to year, but this variation is most obvious only in those species that are to be found in very small, or comparatively very small, numbers, such as the Large Egret, the

Large Cormorant, and to some extent the Darter. Night Herons, Little Egrets and Little Cormorants are the species that are numerically strongest; Openbilled Storks, Grey Herons, Spoonbills, Cattle Egrets, White Ibises, Median Egrets and Pond Herons follow, more or less in that order. The Large Cormorant is the rarest of the birds found here; in most seasons, only two or three pairs seem to nest in the colony.

Besides the birds nesting regularly on the tree-tops (the cormorants and darter are also quite at home in the water), two species found on the water should be mentioned. These are the Indian Moorhen, and the Dabchick (or Little Grebe).

Nesting material is gathered from the surrounding countryside and brought to the colony in the bills of the birds—to some small extent the twigs of the Barringtonia (available at the nesting site) are also utilised, especially by the openbills. The bulk of the nesting material consists of thorny twigs, laboriously fetched from afar. From September till December almost, it is a common sight at Vedanthangal to see flights of various birds coming home with twigs in their beaks, to build and repair their nests—sometimes, they may be observed squabbling over a twig that has fallen down to the tank's surface.

Vedanthangal tank also serves, as a feeding ground to a number of visitors. As already said, migrants like the sandpipers and teals are not at all uncommon here. Indigenous visitors are also not uncommon. Blackwinged Stilts may usually be found in a small party at the northern edge of the water, facing the village; pelicans arrive singly, in pairs, and in parties, and appear to sojourn here for days together during certain years—these are Spottedbilled (or Grey) Pelicans; occasional coots may also visit the tank, and at times the River Tern may be found patrolling the water. Kingfishers, of course, are quite common.

Naturally, at a large breeding centre where there is an unavoidable percentage of infant (and even adult) mortality, and opportunities for nest-raiding, a number of scavengers and predators are also to be found. The House crow, the Pariah Kite, harriers, and an occasional Short-toed Eagle or White Scavenger Vulture are the chief of these. The Brahminy Kite, common over the water, seems to frequent the sanctuary mainly out of its interest in aquatic prey.

One of the features of the rainy season in this area is the superabundance of waterside (and aquatic) insect life. It is no

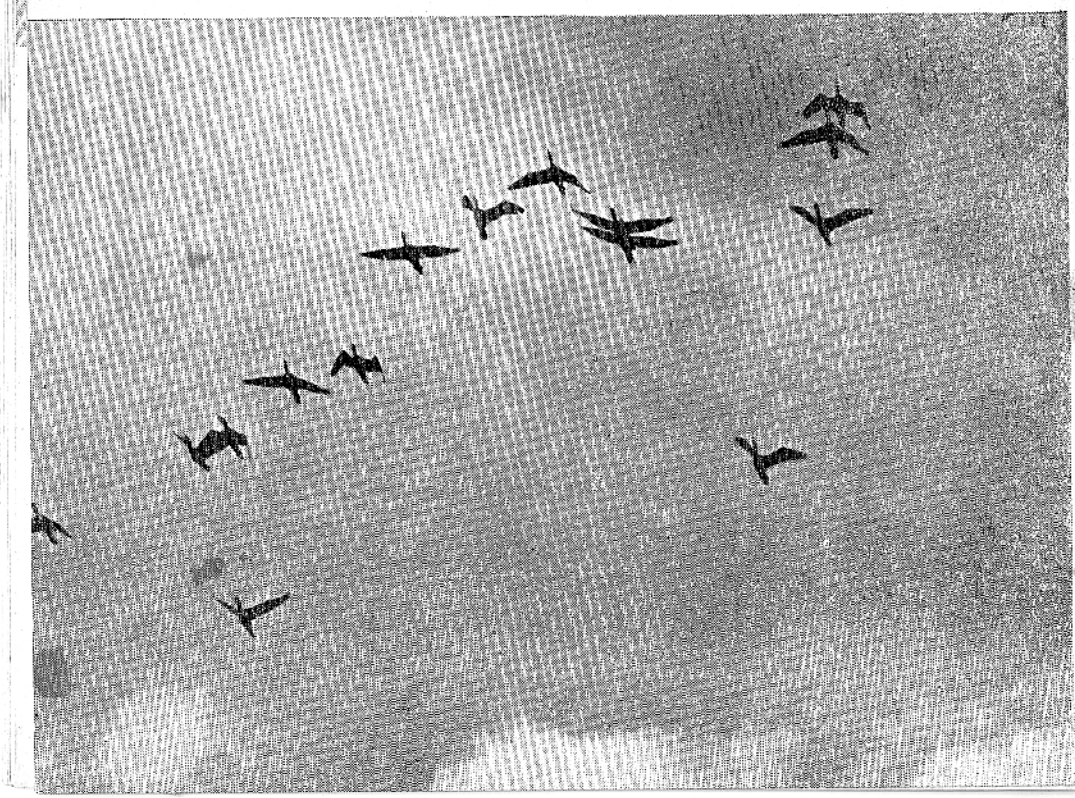
A Short-toed Eagle at Vedanthangal.

surprise, therefore, to find a number of insect-eating birds here, and the vegetation of the bund also attracts seed and fruit eaters. The avifauna of the bund is of considerable interest, especially late in the season when a pair or two of Pied Crested Cuckoos, Blackheaded Cuckoo-Shrikes, Ashy Swallow-Shrikes and other such birds frequent the place. However, there is no space in this pamphlet for an account of these birds, interesting as they are.

NOTES ON THE BIRDS OF THE NESTING COLONY

The three cormorants are hard to tell apart—they are all obviously and unmistakably cormorants, dark (they look black from a distance and one has to get quite near to see that there is some dark grey and brown also in their plumage, and a scaly pattern on the body visible in some lights), with short, broad, webbed feet and hook-tipped bills. They are swift fliers and even more at home in the water than in the air—a cormorant swimming has only its head and neck showing above the surface, and the slightly upward tilt of the head and beak is characteristic. As everyone knows, cormorants are expert divers and hunt their prey (mainly fishes of various kinds) under water; frequently, they hunt in company.

A part of a flight of Little Cormorants returning home.



The Little Cormorant (*Phalacrocorax niger*) is the smallest of the tribe, being only a little larger than a crow. It occurs in large numbers at Vedanthangal, entire trees looking black with the nesting cormorants. Returning from excursions abroad, it usually flies home in large flocks, and sometimes these swift-winged flights, instead of making for the trees, hurtle into the water at a sharp angle, spattering its surface like so much shot from a gun!

The Shag (*Phalacrocorax fuscicollis*) is larger, but unless there is very considerable difference in size between two birds, it is hard to tell them apart from a distance, relative size being a nebulous criterion when distances are so difficult to judge in the air or across water. During the major part of their stay here, shags in breeding plumage sport an elongated white disc-like mark on each side of the head, behind the ear-coverts; when not in breeding condition there is often some white speckling on the throat—the Little Cormorant has often a white patch here. From near, the difference in size between the two birds is clearer. Both have much the same habits, and both are highly gregarious. The young of both have the trick of regurgitating swallowed fish (or other prey) when frightened.

The Large Cormorant (*Phalacrocorax carbo sinensis*) is a *rara avis* here, but two or three pairs are usually to be found nesting at the colony—during certain years there may be more. The nesting trees of these birds appear to be in the interior of the grove. At Vedanthangal this cormorant does not seem to exhibit the white patches on the flanks by which it is identified elsewhere; the white filaments on the head, when the bird is in nuptial plumage, are clear through glasses, and even with the naked eye and from some distance its size, and the yellow skin on the face and throat, serve to distinguish it.

All Cormorants are called 'Neer-Kaakkai' in Tamil.

Darter in flight: the quick wings have beaten the 1/500 second of the shutter.

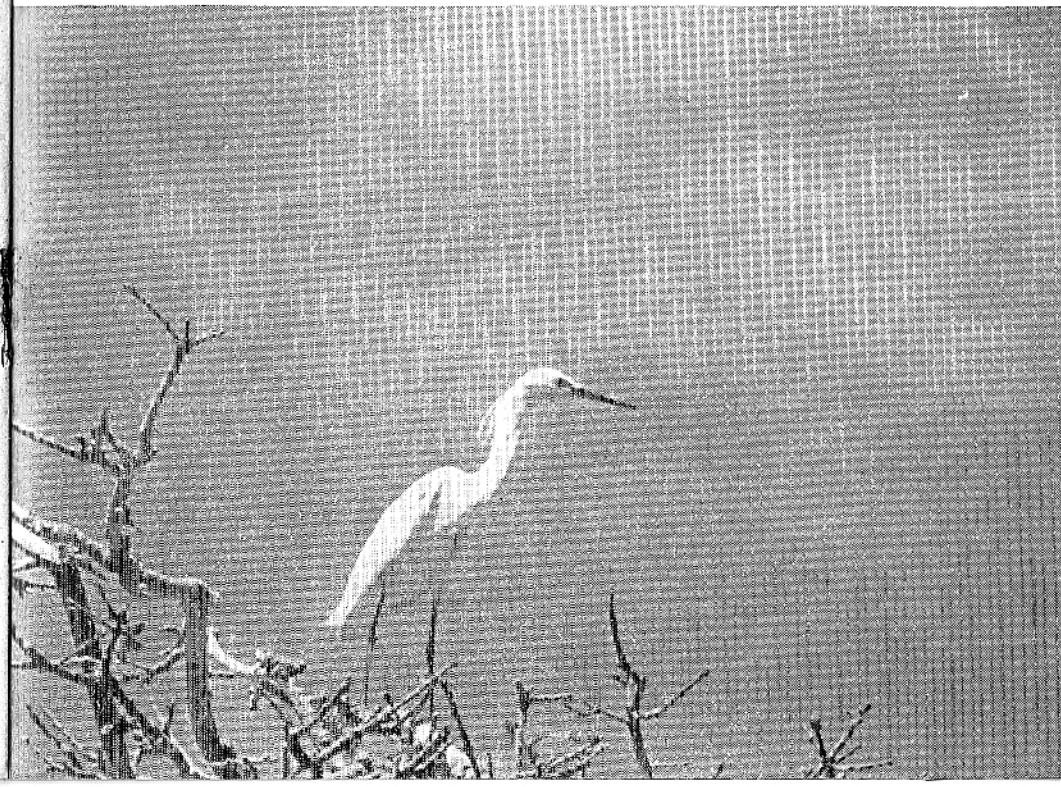
The Darter or Snake-bird (*Anhinga melanogaster*) is an ally of the cormorants and has many of their habits, though when it is soaring on high on triangular wings, with the head and neck stretched out and the full tail spread, it looks as if it were nearer to the pterodactyl! There is something definitely prehistoric about the appearance of this bird. It is big and black, with the white-shafted plumes on the back and sides giving it a scaly, rather reptilian look; the S-shaped neck is snaky and has a powerful kink in its curve, the head is small and the beak dagger-shaped; there is a lining of white on either side of the sinuous neck. When it is in the water, with only its neck and head showing above the surface, it is at once clear why it is called the Snake-bird. It is a splendid diver, and chases and catches

its prey under water. When alarmed it will drop straight into the water from its perch—cormorants, too, have this trick. Frequently it may be seen sitting on a tree, with its wings spread out to dry. The flight is swift, and consists of an alternation of vigorous wing beats and glides; it is also given to soaring. It has been claimed that this bird usually transfixes its prey, the dagger bill and the powerful thrust of the kinked neck enabling it to do so. Darters observed at Vedanthangal caught their prey like any other fish-hunter, between the mandibles, sometimes jerking the fish up into the air to catch and swallow it.

The name for the darter in Tamil is 'Paambu-thaara', meaning 'snake-duck'; no specific local name for the bird, beyond a loosely applied 'kalika' (an obvious corruption of 'pelican'!), was current at Vedanthangal till recently, but now the correct name is in use here too.

Of the three true egrets found at Vedanthangal, the Little Egret (*Egretta garzetta*) is the smallest in size, and numerically

Little Egret in breeding plumage.



Cattle Egrets.

the largest. This dainty egret, perhaps the most graceful of all water-birds in slow flight, has a word-wide distribution, and is the easiest of its tribe to identify, especially in flight when the feet are clearly visible. The comparatively small size, dazzling white plumage, black beak, and black legs with a patch of yellowish colour showing clear on the feet, are the tokens by which one may know it. In breeding plumage (not all the Little Egrets at Vedanthangal are in such plumage), long, exquisitely dissected plumes are developed on the breast and lower back, and two drooping plumes at the back of the head, adding to the airy grace of the bird.

The Median Egret (which is also called the Smaller Egret—*Egretta intermedia*) is larger, but as already pointed out comparative size is hard to judge at a distance. When not in breeding condition its bill is yellow, when breeding black; the legs are dark and there is no patch of yellow on the feet. This egret,

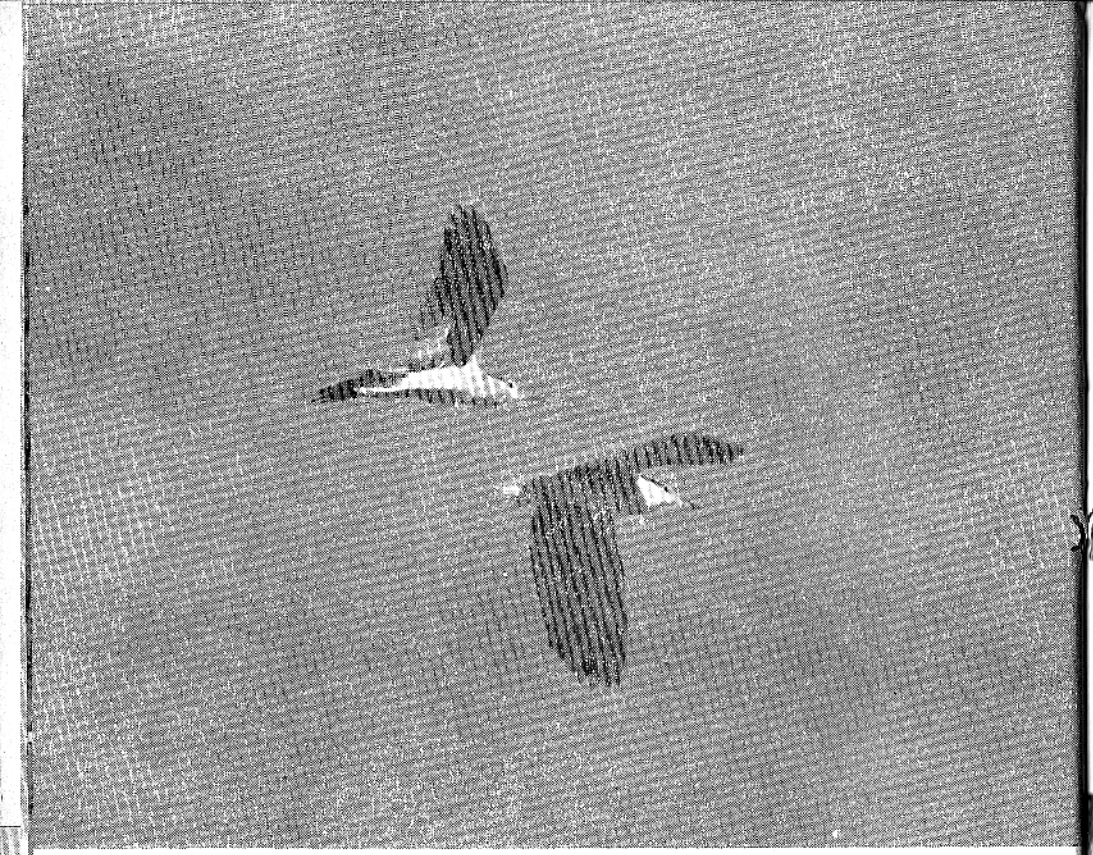
too, develops delicate plumss on its breast and lower back when it is ready to mate and nest, but lacks the drooping plumes on the head.

The Large Egret (*Egretta alba*) is much larger than the Median Egret, standing as tall as a Grey Heron; it is much less common at Vedanthangal than the other egrets, only a dozen birds or two being found at the breeding colony, but then it is fairly conspicuous as it goes wading in the shallows. It has dark legs and feet and a dominantly yellow bill—a clear Indian Yellow, but dusky at the tip. Elsewhere the bill changes to black when the bird is in nuptial livery, but not at Vedanthangal, presumably. A pair of these birds, repeatedly observed near a nest where there were young, retained the yellow of their beaks.

The Little and Median Egrets are gregarious, but the Large Egret is solitary. It is from the nuptial plumes of these three birds that the now long-dead fashion and trade in 'aigrettes' arose, though other birds also contributed their feathers to the trade. The Tamil name for all three egrets, at Vedanthangal as elsewhere, is 'Vellai-Kokku' or 'Ven-Kokku'.

The Cattle Egret (*Bubulcus ibis*), found in flocks at the edge of the tank, in the paddy fields, and following grazing cattle in the scrub around, is about the size of the Little Egret, but much more dumpy in build. Its white is not the cold, dazzling white of the Little Egret and the Median Egret, but a somewhat warm, yellowish white; this distinction may seem slight on paper, but is quite obvious in the field, being the difference between well-laundered white clothes, glistening with just a squeeze of the blue-bag in the last rinse, and the colour of old cream-laid paper. The Cattle Egret's bill is yellow all the year round, and its legs and feet dark. Late in the season these birds get into breeding condition, when the head, neck and back turn a golden buff. The Tamil name is 'Maattu-Kokku' or 'Unni-Kokku'.

The Pond Heron or Paddy-bird (*Ardeola grayii*), is a streaky brown bird, rather smaller than the Cattle Egret, to be found at the water's edge and in the paddy fields, sitting humped up with its neck completely retracted between its shoulders. So still does it sit, so perfectly do its earthy, mottled browns blend with its surroundings, that it is easy to overlook the bird even from close quarters. When alarmed it spreads its broad wings and flies away, the flashing white wings hiding the brown body, so that one is considerably surprised to see such a conspicuously white bird suddenly materialise from the earth, right



Adult Night Herons.

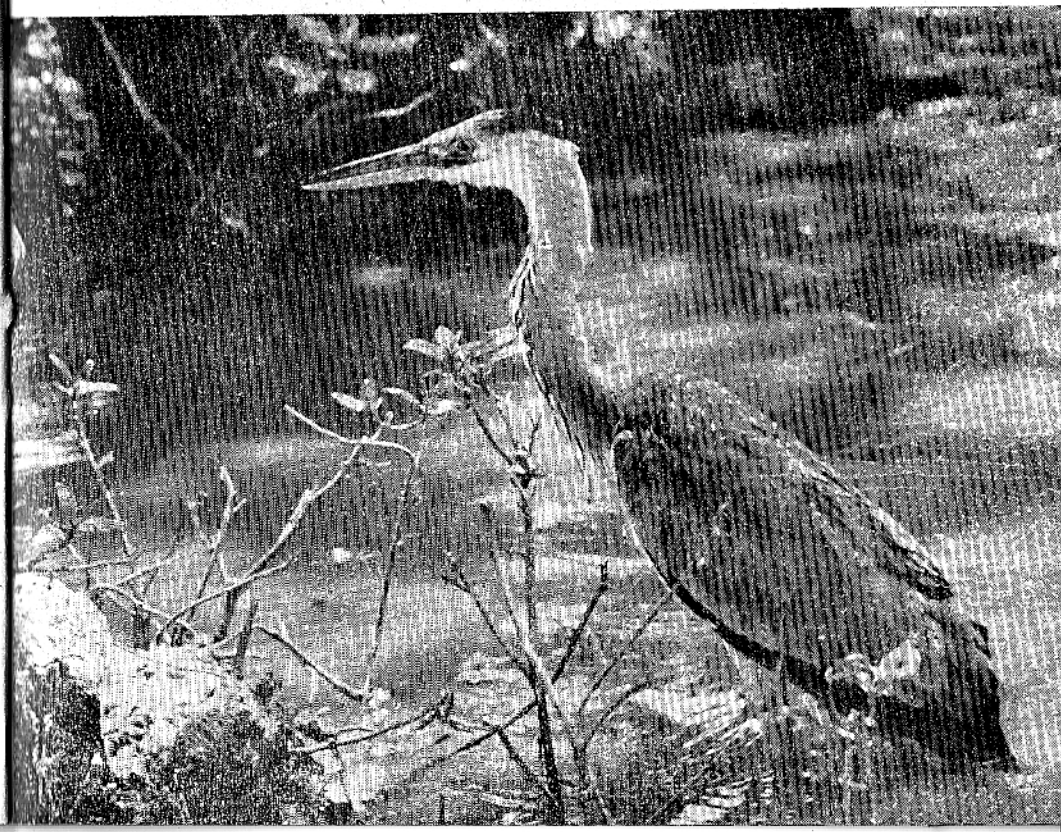
under one's nose ! In breeding livery the back is covered with fine maroon feathers and a drooping crest of white plumes developed. The Tamil name of the bird, ' Madayaan ', is an old, old one, but in Vedanthangal and in the Madras area generally it is called ' Kuruttu-Kokku '—' kuruttu ' means ' blind ', and what the name signifies is not that that the bird is blind, but that it blinds the onlooker with its camouflage !

The highly gregarious Night Heron (*Nycticorax nycticorax*) occurs in very large numbers at the sanctuary, but because it stays largely in cover during the day, its numerical strength here is apt to be overlooked. Larger than the Cattle Egret and squatly built, it is much more nocturnal and crepuscular than the birds mentioned so far. In the fully adult bird, the body is grey, the top of the head and the top of the back are black, and the underside white ; there is a black crest with two white long white plumes drooping down over the nape. Subadult birds are a streaky brown all over, somewhat like a paddy-bird at rest, but with the typical build of the night heron. The

heavy build and flapping flight are distinctive, and unlike most water-birds it is highly vocal on the wing, coming out with a hollow ' waak ' ! from time to time that carries far. Normally the legs are a horny grey, but in the breeding bird they turn almost vermillion. When the water is drying up in the tank and is shallow in the middle, subadult (and even a few fully adult) night hereons may be observed bathing beneath their nesting trees. The Tamil name of the bird, ' Vakka ' is onomatopoeic, and comes from its call.

The Grey Heron (*Ardea cinerea*) is another bird with a very wide distribution—this is the heron meant when the name is used with no further specification. It is as large as a small stork, slightly taller than the Openbilled Stork with which it is so closely associated in the sanctuary, and much more graceful in flight and carriage. Ash-grey on the body, with a black

A wading Grey Heron.



crest, whitish head and neck, and a speckled black line down the neck ventrally, it is a handsome bird, and its yellow bill and legs contrast neatly with its grey, white and black—at Vedanthangal, however, the nesting herons do not have yellow legs, but legs of a salmon pink colour. The crest is not prominent except when erected in excitement—it is invariably erected when the bird alights on a bough, or on the ground, from flight. However, it is not necessary to look for these morphological details to know the hereon. It has large wings, with a somewhat hollow camber, and the graceful flight and broad, sail-like wings identify the bird from a considerable distance.

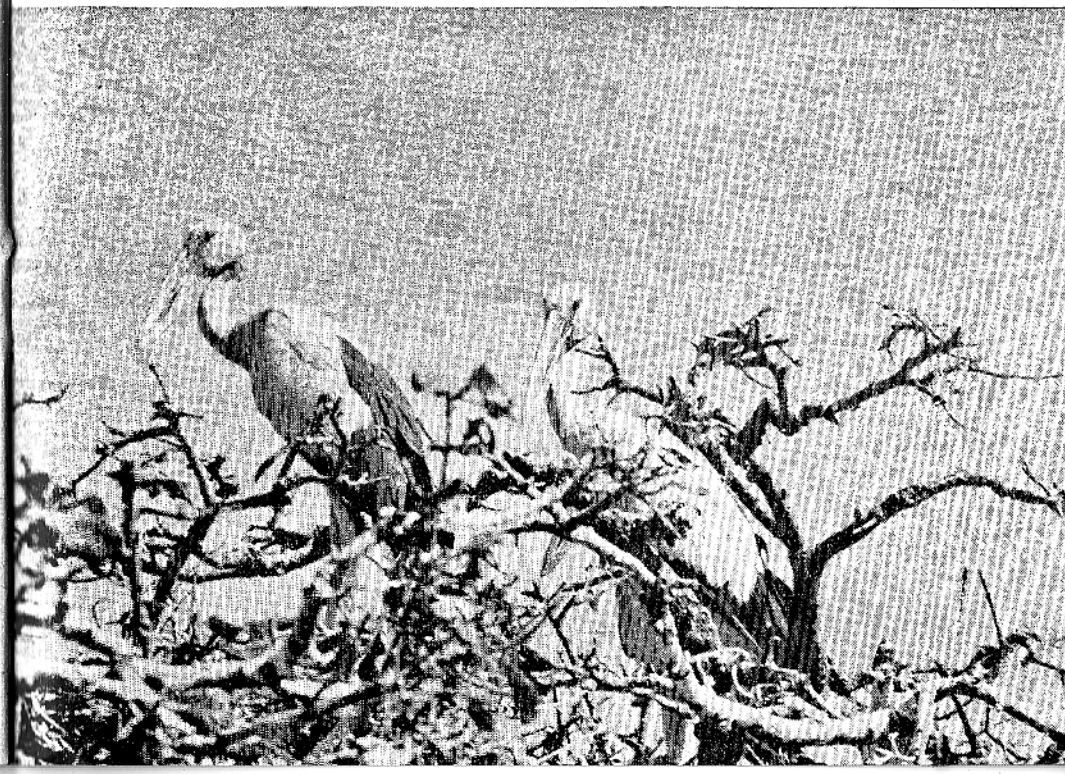
At Vedanthangal, a nesting Grey Heron may sometimes be observed to stand bolt upright on its perch, with the neck held rigidly stretched upwards, and puffed, and the head and bill pointing upwards, in a bittern-like attitude—however, the head is not, as a rule, pointed straight up and the bases of the wings are held off the body. The significance of this attitude is not clear. I do not think it is any part of the courtship display, but it may be a threat posture, or in some way connected with fatigue. At Vedanthangal they call the heron 'Naarayana-patchi'; 'patchi' means 'bird', and is often suffixed to specific bird names (as are also other Tamil words meaning 'bird'); the Tamil name for the heron is 'Narayaan' or 'Naarayaan', and the Vedanthangal name is an interesting corruption of this.

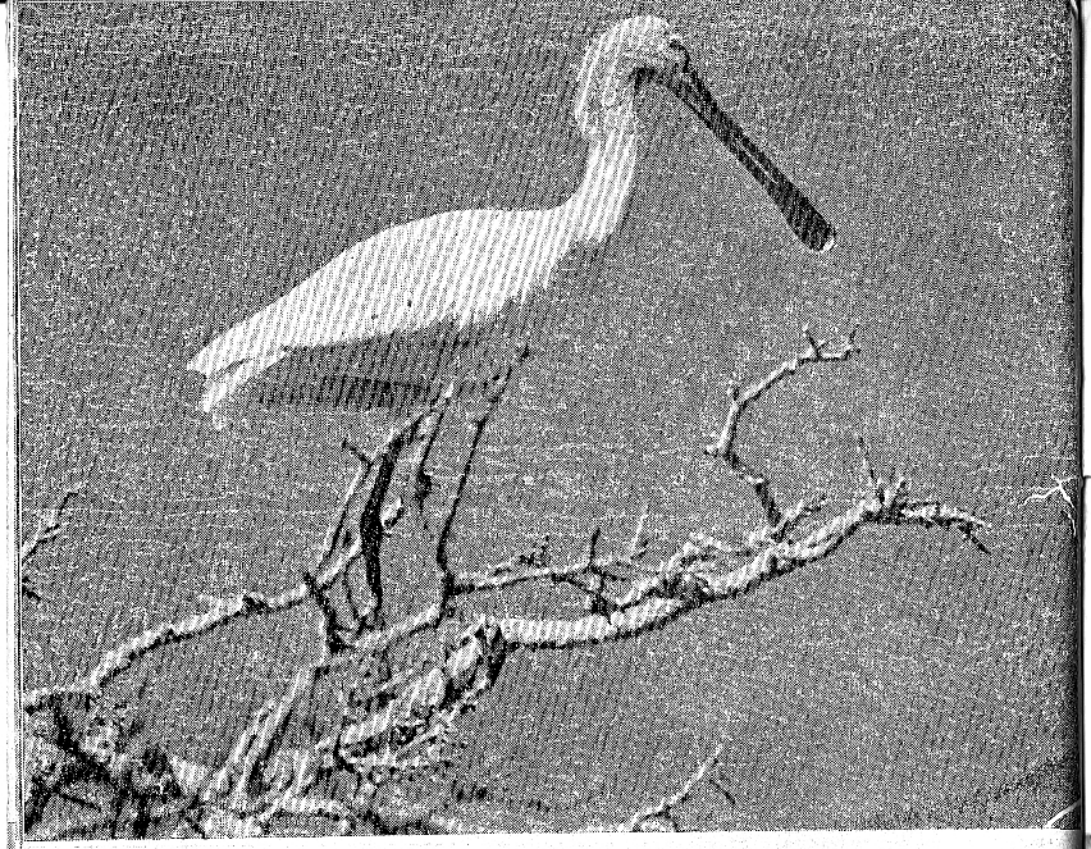
The egrets and the cattle egret, the pond heron, the night heron, and the heron, all have a thing in common—they have long, retractile, S-shaped necks which can be extended considerably and at lightning speed to catch prey, or withdrawn almost completely, bent back on themselves and hidden by the feathers on the shoulders. In flight the neck is withdrawn into the shoulders, so that it hardly shows, except as a bulge in front of the breast. The only exception to this rule seems to be provided by the Little Egret which, when flying low over the water and scanning something below, sometimes stretches its neck forward, but even this is a rare action. The Openbilled Stork, the Spoonbill, and the White Ibis, and others of their tribe not found at Vedanthangal, fly with their heads and necks stretched out straight in front of them.

In many ways it is the Openbilled Stork (*Anastomus oscitans*) that dominates the breeding colony, not by its numbers, but by its habit of nesting in the exposed, outlying trees, and its spectacular return flights in the evenings. This is the smallest of our storks, being only heron-sized, with a humped

back. The body is a light grey, or greyish white, the wings being broadly tipped with black—the tail is black. The beak is a horny greenish grey and reddish in places, and the legs a dull, dark pink. The bird gets its name from its remarkable bill, which has a gap in the middle when closed, the mandibles meeting at the tip. It has been said that this nutcracker-like development of the bill is useful to the bird in cracking the shells of the large water-snails to which it is so partial—an interesting theory, rather spoiled by the fact that the openbill's method of feeding on such snails is to sever the operculum expertly and then scoop them out entire with its beak. This stork feeds on many other aquatic animals, besides snails. Incidentally, only the adult openbill has an open bill—in the fledgeling and young, almost grown bird the bill is first wedge-shaped and then elongates, and the mandibles meet, as in other birds, all along their length.

Openbilled Strokes.





Spoonbill in breeding livery.

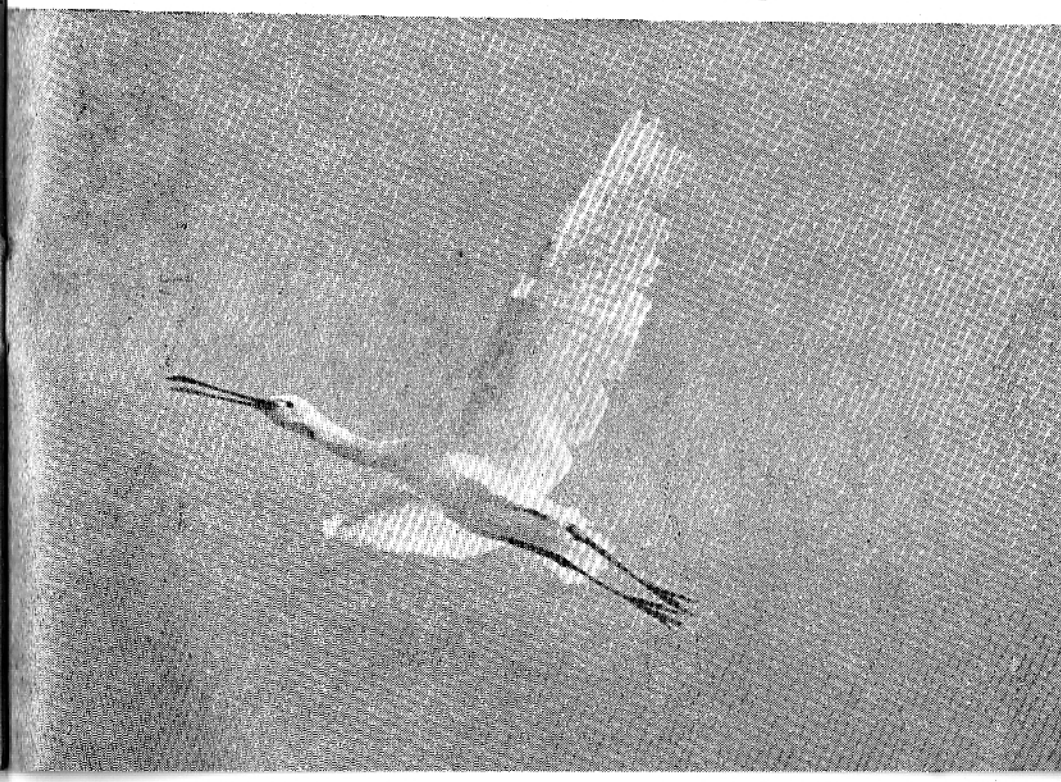
On arrival at the colony to breed almost all the openbills look white-and-black; as the season progresses, especially towards its close, the white in their plumage is replaced by a smoky grey. During the last weeks of the season, shortly before they disperse, the young openbills, now almost the size of their parents and similarly grey-and-black, congregate by themselves on the tree-tops—trees in the interior of the grove are chosen usually for this foregathering. They are, by now, well able to fly and to fend for themselves, and they spend hours together on the tree-tops, often indulging in a chorus of yapping sounds. The mandibles are opened and closed as this sound, a muffled yap, is made, and it is not clear whether the sound is made by this movement of the mandibles or not. The old birds do not seem to indulge in such a chorus.

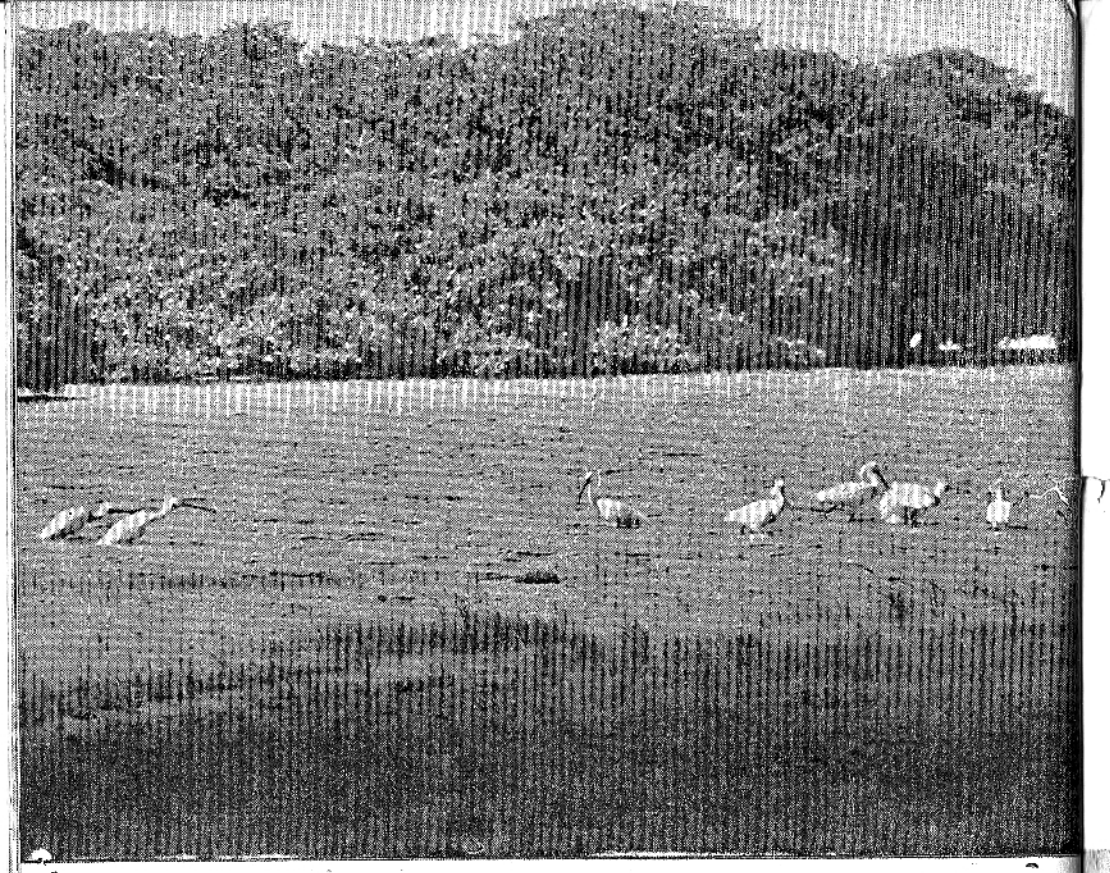
Openbills are given to soaring on high in company when the weather is not too cloudy or rainy, soaring so high that they are just visible as moving specks against the brilliant blue of the sky, glistening as the sun highlights their still, spread wings. At

Vedanthangal, when they return from their feeding flights to the colony in the evenings, the openbills often arrive in flocks and soar above the colony, descending in a series of almost vertical, sharply-angled dives at dizzying speed; these dives and glissades are executed with such certainty and speed that the birds, high up in the sky at one moment, are over the nesting trees the next; they then spread out their wings to brake their momentum, and flap their way to their nests. One needs to witness this spectacle, to know that the clumsy-looking openbill is capable of such dexterity of wing. The Tamil name for the bird, from its partiality to snails, is 'Naththai-kuththi Naarai'.

The quaint-looking spoonbill is also one of the features of this breeding centre—the spoonbill found here is the very same to be found elsewhere in India, *Platalea leucorodia*. It is unmistakable, a plump, largish white bird with long black legs, and a horny black spatulate bill tipped with yellow. There is a crimson patch of naked skin at the throat, and in breeding livery the bird develops a thick white nuchal crest—a crest of feathers right at the back of the head—and the breast feathers take on a

Spoonbill uttering its hicupping ca'l on the wing.





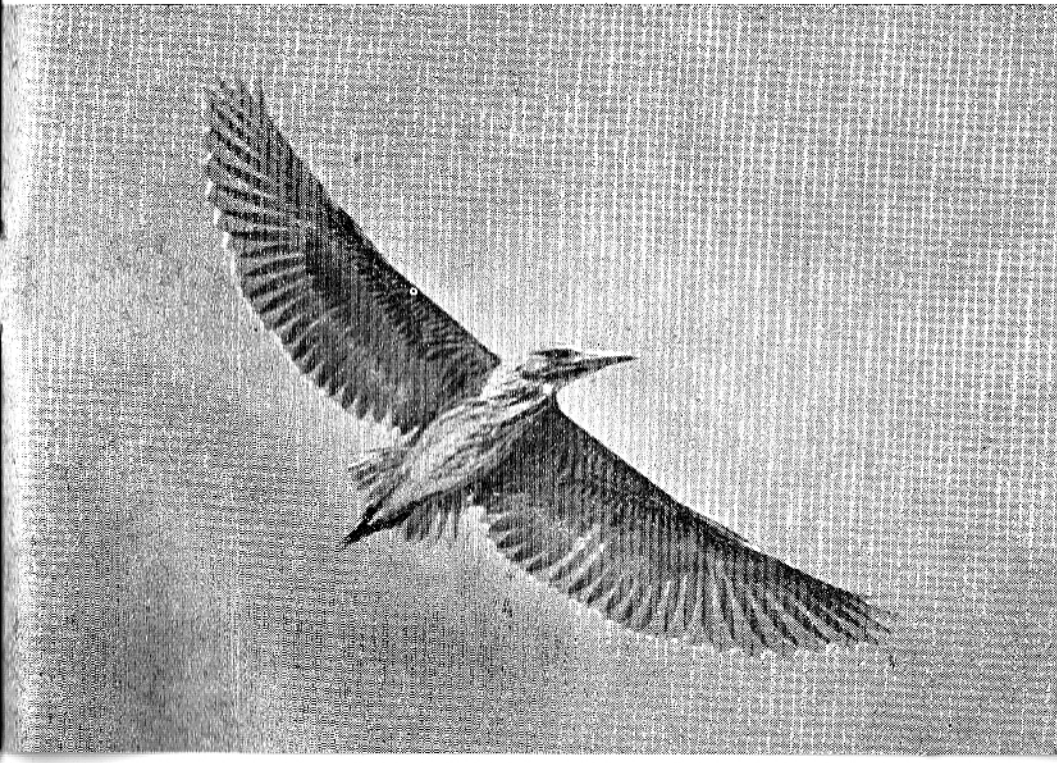
Spoonbills feeding.

blush of yellow. Spoonbills arriving to breed at Vedanthangal are already in breeding plumage, and retain their nuchal crests right till the end of the season ; in fact, the easiest way to tell the grown-up young apart from their parents is by the lack of a crest in the young. Spoonbills (and probably openbills) seem to arrive at Vedanthangal from considerable distances, and are ready to nest on arrival.

Nestling spoonbills do not have the spatulate bills of the adult ; their beaks are pink and tenderly swollen and hook-tipped, like that of a pigeon's squab, and in their white down they look like nothing so much as the young of the dodo ! They grow apace and rapidly develop the dark, spatulate bill that is their tribal mark. Spoonbills are crepuscular, perhaps even nocurnal, in their feeding, but when nesting they need to go searching for food during the day as well. They usually feed in company, in rows or strings, wading in the shallows with their partly opened bills immersed in the water—sometimes, when they reach down after prey, the head is completely immersed. They move their heads and bills in a partial sweep from side to side, and any prey encountered is caught and swallowed —they also take in some measure of aquatic vegetation. Late in the season, spoonbills may occasionally be seen feeding at the shallow eastern edge of the tank. Spoonbills are said to be dumb, except for an egret-like grunt uttered at the nesting site. At Vedanthangal, the birds were heard, and observed to produce a quite different sound—no doubt all these birds, everywhere, also come out with this "call", a sound very like a politely and unsuccessfully suppressed human hiccup, uttered both from a perch and on the wing. The bill is opened and closed as this sound (which is *not* produced by the clattering together of the mandibles) is produced, and a noticeable gulping movement agitates the dull red gular patch. This sound seems to be an alarm-call, though it is so weak. At Vedanthangal the spoonbill is called 'Mamtivaayan', i.e., 'Manvetti-vaayan'.

The White Ibis, *Threskiornis melanocephalus,* is the ibis breeding here, in somewhat smaller numbers than the spoonbill. This bird is almost as nocturnal as the night heron—large flights

Subadult Night Heron.



may occasionally be found soaring over the sanctuary, sometimes along with soaring spoonbills. The head and neck, which are bare of feathers in the adult, are black, and the black bill has a sickle-shaped curve ; the legs are also black and the rest of the bird is white—only in some of the birds at Vedanthangal is there any patch of grey on the crook of the wing or on the scapulars. The young are very similar, except that they have grey feathers covering the neck and the back of the head. The local name for this bird, aptly enough, is 'Arivaal-mookkan'.

The Indian Moohen (*Gallinula chloropus*), of a species with a very wide distribution all over the world in geographical races, may be found swimming in pairs and parties under the trees of the middle. It has the habit of jerking its head forward, and its tail upwards, with each propulsive thrust of the feet, a habit shared by other waterhens—this 'jerk-propelled' swimming serves to identify it easily. It is vaguely termed 'Kaanaankozhi' at Vedanthangal.

The much smaller Dabchick or Little Grebe (*Podiceps ruficollis*) is more a bird of the open water between clumps of trees, and towards the margins of the tank. In February, pairs, accompanied by half-grown young were observed, suggesting that the bird probably breeds here, though scrutiny failed to reveal any nest.

TO THE INTENDING VISITOR.

For reasons already explained, the commencement, extent and duration, and end of the nesting enterprise at Vedanthangal are all very much dependent on rainfall. But normally November, December, and January are the best months for a visit to the sanctuary.

If the visit cannot be planned for a whole day, it is better to plan it so that one can be at Vedanthangal by about 3 o' clock in the afternoon, and stay on there till sunset. Though the skies are often overcast during the earlier part of the breeding season, one looks at the colony from the bund, and in spite of cloud-filtered light, the view is distinctly clearer with the sun behind one—in the mornings the sun is almost right opposite the watcher on the bund. Moreover, the big return flights are to be witnessed only in the evenings, shortly before sunset.

It is wiser to keep to the bund and not to investigate the vegetation on its sides, unless one happens to be a botanist. There is a kind of nettle here that can be quite troublesome, if one happens to be specially allergic to it.

Please manfully resist the temptation to get into the tank-bed for a nearer look. This is a sanctuary for water-birds, and not for photographers and others who like to get as close to any birds they see as they can. It is impossible to predict the damage, or lack of damage, that may be caused by the birds panicking. In this connection, the true story of Pelican Island on the east coast of Florida may be retailed. To prevent people from hunting the birds, prominent notices were put up, declaring the island a sanctuary and prohibiting any activity that might affect the Brown Pelicans breeding there. The birds promptly deserted the island, because they were frightened by the sign-boards prohibiting their destruction !

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